

SEQUENCE LISTING

<110> Vogels, Ronald
Schouten, Govert J.
Bout, Abraham
Havenga, Menzo

<120> Means and Methods for Fibroblast-Like or Macrophage-Like Cell Transduction

<130> 2183-3982.3US

<140> 09/517,898

<141> 2000-03-03

<150> 60/122,732

<151> 1999-03-03

<160> 38

<170> PatentIn version 3.1

<210> 1

<211> 23

<212> DNA

<213> Artificial sequence

<220>

<223> Chemically synthesized Primer HSA-2

<400> 1

aattgtctta attaaccgct taa

23

<210> 2

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> Chemically synthesized Primer HSA-2

<400> 2

aattgtctta attaaccgc

19

<210> 3

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> Chemically synthesized Primer HSA-2

<400> 3
 aattgcggtt aattaagac 19

<210> 4
 <211> 27
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized Primer HSA-2

<400> 4
 gggggatccg aacttggtta ttgcagc 27

<210> 5
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized Primer HSA-2

<400> 5
 gggagatcta gacatgataa gatac 25

<210> 6
 <211> 27
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized Primer HSA-2

<400> 6
 gggagatctg tactgaaatg tgtgggc 27

<210> 7
 <211> 24
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized Primer HSA-2

<400> 7
 ggaggtgca gtctccaacg gcgt 24

<210> 8
 <211> 47
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized Primer HSA-2

 <400> 8
 ctgtacgtac cagtgcactg gcctaggcat ggaaaaatac ataactg 47

 <210> 9
 <211> 64
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer HSA-2

 <400> 9
 gcggatcctt cgaaccatgg taagcttggt accgctagcg ttaaccgggc gactcagtca 60
 atcg 64

 <210> 10
 <211> 28
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer HSA-2

 <400> 10
 gcgccaccat gggcagagcg atggtggc 28

 <210> 11
 <211> 47
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer HSA-2

 <400> 11
 ctgtacgtac cagtgcactg gcctaggcat ggaaaaatac ataactg 47

 <210> 12
 <211> 64
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer HSA-2

 <400> 12
 gcggatcctt cgaaccatgg taagcttggt accgctagcg ttaaccgggc gactcagtca 60
 atcg 64

<210> 13
 <211> 50
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer HSA-2

 <400> 13
 gttagatcta agcttgtcga catcgatcta ctaacagtag agatgtagaa 50

 <210> 14
 <211> 47
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer HSA-2

 <400> 14
 ctgtacgtac cagtgcactg gcctaggcat ggaaaaatac ataactg 47

 <210> 15
 <211> 64
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer LTR-2

 <400> 15
 gcggatcctt cgaaccatgg taagcttggt accgctagcg ttaaccgggc gactcagtca 60
 atcg 64

 <210> 16
 <211> 10
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer

 <400> 16
 ttaagtcgac 10

 <210> 17
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized Primer

 <400> 17
 ggggtggcca gggtagctct aggccttttgc aa 32

 <210> 18
 <211> 29
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized Primer

 <400> 18
 ggggggatcc ataaacaagt tcagaatcc 29

 <210> 19
 <211> 35
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

 <400> 19
 cccgtgtatc catatgatgc agacaacgac cgacc 35

 <210> 20
 <211> 27
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

 <400> 20
 cccgtctacc catatggcta cgcgcg 27

 <210> 21
 <211> 27
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

 <400> 21
 cckgtstacc catatgaaga tgaaagc 27

<210> 22
 <211> 31
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

 <400> 22
 cccgtctacc catatgacac ctyctcaact c 31

 <210> 23
 <211> 36
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

 <400> 23
 cccgtttacc catatgaccc atttgacaca tcagac 36

 <210> 24
 <211> 30
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

 <400> 24
 ccgatgcatt tattgttggg ctatatagga 30

 <210> 25
 <211> 30
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

 <400> 25
 ccgatgcatt yattcttggg cratatagga 30

 <210> 26
 <211> 36
 <212> DNA

<213> Artificial sequence

<220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

<400> 26
 ccgatgcatt tattcttggg raatgtawga aaagga 36

<210> 27
 <211> 30
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

<400> 27
 ccgatgcatt cagtcattctt ctctgatata 30

<210> 28
 <211> 30
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

<400> 28
 ccgatgcatt tattgttcag ttatgtagca 30

<210> 29
 <211> 30
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

<400> 29
 gccatgcatt tattgttctg ttacataaga 30

<210> 30
 <211> 37
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Chemically synthesized oligonucleotide for amplification of DNA
 encoding fiber protein derived from adenovirus serotype

<400> 30
ccgtaatta agcccttatt gttctgttac ataagaa 37

<210> 31
<211> 30
<212> DNA
<213> Artificial sequence

<220>
<223> Chemically synthesized oligonucleotide for amplification of DNA encoding fiber protein derived from adenovirus serotype

<400> 31
ccgatgcatt cagtcacatct ctwtaataata 30

<210> 32
<211> 1068
<212> DNA
<213> Artificial sequence

<220>
<223> DNA encoding Adenovirus Ad5/fib16 chimeric fiber

<400> 32
atgaagcgcg caagaccgtc tgaagatacc ttcaaccccg tgtatccata tgaagatgaa 60
agcagctcac aacacccctt tataaacctt ggtttcattt cctcaaattg ttttgcacaa 120
agcccagatg gagttctaac tcttaaattg gttaattcac tcaactaccg cagcggaccc 180
ctccaaacta aagttggaag cagtcttaca gtagatacta tcgatgggtc tttggaggaa 240
aatataactg ccgaagcgcg actcactaaa ctaaccactc catagggtta ttaataggat 300
ctggcttgca aacaaaggat gataaacttt gtttatcgct gggagatggg ttggtacaa 360
aggatgataa actatgttta tcgctgggag atgggttaat aacaaaaaat gatgtactat 420
gtgccaaact aggacatggc cttgtgtttg actcttccaa tgctatcacc atagaaaaca 480
acaccttggtg gacaggcgcg aaaccaagcg ccaactgtgt aattaaagag ggagaagatt 540
ccccagactg taagctcact ttagttctag tgaagaattg aggactgata aatggatata 600
taacattaat gggagcctca gaatatacta acaccttggt taaaacaatc aagttacaat 660
cgatgtaaac ctgcatttg ataatactgg ccaaattatt acttacctat catcccttaa 720
aagtaacctg aactttaag acaacaaaaa catggctact ggaaccataa ccagtgccaa 780
aggcttcattg cccagcacca ccgctatcc atttataaca tacgccactg agaccctaaa 840
tgaagattac atttatggag agtggtacta caaatctacc aatggaactc tctttccact 900

aaaagttact gtcacactaa acagacgtat gttagcttct ggaatggcct atgctatgat	960
ttttcatggg ctctaaatgc agaggaagcc ccggaacta ccgaagtcac tctcattacc	1020
tcccccttct ttttttctta tatcagagaa gatgactgaa tgcattag	1068

<210> 33
 <211> 1062
 <212> DNA
 <213> Adenovirus 16

<400> 33	
atggccaaac gagctcggct aagcagctcc ttcaatccgg tctacccta tgaagatgaa	60
agcagctcac aacacccctt tataaacctt ggtttcattt cctcaaattg ttttgcacaa	120
agcccagatg gagttctaac tcttaaatgt gttaatccac tcactaccgc cagcggaccc	180
ctccaactta aagttggaag cagtcttaca gtagatacta tcgatgggtc tttggaggaa	240
aatataactg ccgcagcgcc actcactaaa actaaccact ccataggttt attaatagga	300
tctggccttg aaacaaagga tgataaactt tgtttatcgc tgggagatgg gttggtaaca	360
aaggatgata aactatgttt atcgctggga gatgggttaa taacaaaaaa tgatgtacta	420
tgtgccaaac taggacatgg ccttgtgttt gactcttcca atgctatcac catagaaaac	480
aacaccttgt ggacaggcgc aaaaccaagc gccaactgtg taattaaaga gggagaagat	540
tccccagact gtaagctcac tttagttcta gtgaagaatg gaggactgat aaatggatac	600
ataacattaa tgggagcctc agaataact aacaccttgt ttaaaaaaca tcaagttaca	660
atcgatgtaa acctcgcat tgaataact ggccaaatta ttacttacct atcatccctt	720
aaaagtaacc tgaactttaa agacaaccaa aacatggcta ctggaaccat aaccagtgcc	780
aaaggcttca tgcccagcac caccgcctat ccatttataa catacgccac tgagacccta	840
aatgaagatt acatttatgg agagtgttac taaaatcta ccaatggaac tctctttcca	900
ctaaaagtta ctgtcacact aaacagacgt atgttagctt ctggaatggc ctatgctatg	960
aatttttcat ggtctctaaa tgcagaggaa gccccgaaa ctaccgaagt cactctcatt	1020
acctccccct tctttttttc ttatatcaga gaagatgact ga	1062

<210> 34
 <211> 353
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Chimeric Ad5/Fib16 protein

<400> 34

Met Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro
1 5 10 15

Tyr Glu Asp Glu Ser Ser Ser Gln His Pro Phe Ile Asn Pro Gly Phe
20 25 30

Ile Ser Ser Asn Gly Phe Ala Gln Ser Pro Asp Gly Val Leu Thr Leu
35 40 45

Lys Cys Val Asn Pro Leu Thr Thr Ala Ser Gly Pro Leu Gln Leu Lys
50 55 60

Val Gly Ser Ser Leu Thr Val Asp Thr Ile Asp Gly Ser Leu Glu Glu
65 70 75 80

Asn Ile Thr Ala Ala Ala Pro Leu Thr Lys Thr Asn His Ser Ile Gly
85 90 95

Leu Leu Ile Gly Ser Gly Leu Gln Thr Lys Asp Asp Lys Leu Cys Leu
100 105 110

Ser Leu Glu Asp Gly Leu Val Thr Lys Asp Asp Lys Leu Cys Leu Ser
115 120 125

Leu Gly Asp Gly Leu Ile Thr Lys Asn Asp Val Leu Cys Ala Lys Leu
130 135 140

Gly His Gly Leu Val Phe Asp Ser Ser Asn Ala Ile Thr Ile Glu Asn
145 150 155 160

Asn Thr Leu Trp Thr Gly Ala Lys Pro Ser Ala Asn Cys Val Ile Lys
165 170 175

Glu Gly Glu Asp Ser Pro Asp Cys Lys Leu Thr Leu Val Leu Val Lys
180 185 190

Asn Gly Gly Leu Ile Asn Gly Tyr Ile Thr Leu Met Gly Ala Ser Glu
195 200 205

Tyr Thr Asn Thr Leu Phe Lys Asn Asn Gln Val Thr Ile Asp Val Asn
210 215 220

Leu Ala Phe Asp Asn Thr Gly Gln Ile Ile Thr Tyr Leu Ser Ser Leu
 225 230 235 240

Lys Ser Asn Leu Asn Phe Lys Asp Asn Gln Asn Met Ala Thr Gly Thr
 245 250 255

Ile Thr Ser Ala Lys Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro Phe
 260 265 270

Ile Thr Tyr Ala Thr Glu Thr Leu Asn Glu Asp Tyr Ile Tyr Gly Glu
 275 280 285

Cys Tyr Tyr Lys Ser Thr Asn Gly Thr Leu Phe Pro Leu Lys Val Thr
 290 295 300

Val Thr Leu Asn Arg Arg Met Leu Ala Ser Gly Met Ala Tyr Ala Met
 305 310 315 320

Asn Phe Ser Trp Ser Leu Asn Ala Glu Glu Ala Pro Glu Thr Thr Glu
 325 330 335

Val Thr Leu Ile Thr Ser Pro Phe Phe Phe Ser Tyr Ile Arg Glu Asp
 340 345 350

Asp

<210> 35
 <211> 353
 <212> PRT
 <213> Adenovirus Ad16

<400> 35

Met Ala Lys Arg Ala Arg Leu Ser Ser Ser Phe Asn Pro Val Tyr Pro
 1 5 10 15

Tyr Glu Asp Glu Ser Ser Ser Gln His Pro Phe Ile Asn Pro Gly Phe
 20 25 30

Ile Ser Ser Asn Gly Phe Ala Gln Ser Pro Asp Gly Val Leu Thr Leu
 35 40 45

Lys Cys Val Asn Pro Leu Thr Thr Ala Ser Gly Pro Leu Gln Leu Lys
 50 55 60

Val Gly Ser Ser Leu Thr Val Asp Thr Ile Asp Gly Ser Leu Glu Glu
 65 70 75 80

Asn Ile Thr Ala Ala Ala Pro Leu Thr Lys Thr Asn His Ser Ile Gly
 85 90 95

Leu Leu Ile Gly Ser Gly Leu Gln Thr Lys Asp Asp Lys Leu Cys Leu
 100 105 110

Ser Leu Gly Asp Gly Leu Val Thr Lys Asp Asp Lys Leu Cys Leu Ser
 115 120 125

Leu Gly Asp Gly Leu Ile Thr Lys Asn Asp Val Leu Cys Ala Lys Leu
 130 135 140

Gly His Gly Leu Val Phe Asp Ser Ser Asn Ala Ile Thr Ile Glu Asn
 145 150 155 160

Asn Thr Leu Trp Thr Gly Ala Lys Pro Ser Ala Asn Cys Val Ile Lys
 165 170 175

Glu Gly Glu Asp Ser Pro Asp Cys Lys Leu Thr Leu Val Leu Val Lys
 180 185 190

Asn Gly Gly Leu Ile Asn Gly Tyr Ile Thr Leu Met Gly Ala Ser Glu
 195 200 205

Tyr Thr Asn Thr Leu Phe Lys Asn Asn Gln Val Thr Ile Asp Val Asn
 210 215 220

Leu Ala Phe Asp Asn Thr Gly Gln Ile Ile Thr Tyr Leu Ser Ser Leu
 225 230 235 240

Lys Ser Asn Leu Asn Phe Lys Asp Asn Gln Asn Met Ala Thr Gly Thr
 245 250 255

Ile Thr Ser Ala Lys Gly Phe Met Pro Ser Thr Thr Ala Tyr Pro Phe
 260 265 270

Ile Thr Tyr Ala Thr Glu Thr Leu Asn Glu Asp Tyr Ile Tyr Gly Glu

275	280	285	
Cys Tyr Tyr Lys Ser Thr Asn Gly Thr Leu Phe Pro Leu Lys Val Thr			
290	295	300	
Val Thr Leu Asn Arg Arg Met Leu Ala Ser Gly Met Ala Tyr Ala Met			
305	310	315	320
Asn Phe Ser Trp Ser Leu Asn Ala Glu Glu Ala Pro Glu Thr Thr Glu			
	325	330	335
Val Thr Leu Ile Thr Ser Pro Phe Phe Phe Ser Tyr Ile Arg Glu Asp			
	340	345	350
Asp			
<210> 36			
<211> 42			
<212> DNA			
<213> Artificial sequence			
<220>			
<223> Chemically synthesized Primer NY-UP			
<400> 36			
cgacatatgt agatgcatta gtttgtgtta tgtttcaacg tg			42
<210> 37			
<211> 19			
<212> DNA			
<213> Artificial sequence			
<220>			
<223> Chemically synthesized Primer NY-DOWN			
<400> 37			
ggagaccact gccatggtg			19
<210> 38			
<211> 1103			
<212> DNA			
<213> Artificial sequence			
<220>			
<223> DNA encoding Adenovirus Ad5/fib16 chimeric fiber			
<400> 38			
atgaagcgcg caagaccgtc tgaagatacc ttcaaccccg tgtatccata tgaagatgaa			60
agcagctcac aacacccctt tataaacctt gggtttcatTT cctcaaattgg ttttgcacaa			120
agcccagatg gagttctaac tcttaaattgt gttaatccac tcactaccgc cagcggaccc			180

ctccaactta aagttggaag cagtcttaca gtagatacta tcgatgggtc tttggaggaa	240
aatataactg ccgaagcgcc actcactaaa ctaaccactc cataggttta ttaataggat	300
ctggcttgca aacaaaggat gataaacttt gtttatcgct gggagatggg ttggttaacaa	360
aggatgataa actatgttta tcgctgggag atgggttaat aacaaaaaat gatgtactat	420
gtgccaaact aggacatggc cttgtgtttg actcttccaa tgctatcacc atagaaaaca	480
acaccttgty gacaggcgca aaaccaagcg ccaactgtgt aattaaagag ggagaagatt	540
ccccagactg taagctcact ttagttctag tgaagaatgg aggactgata aatggataca	600
taacattaat gggagcctca gaatatacta acaccttggt taaaacaatc aagttacaat	660
cgatgtaaac ctgcgatttg ataatactgg ccaaattatt acttacctat catcccttaa	720
aagtaacctg aactttaaaag acaaccaaaa catggctact ggaaccataa ccagtgccaa	780
aggcttcatg cccagcacca ccgcctatcc atttataaca tacgccactg agaccctaaa	840
tgaagattac atttatggag agtgttacta caaatctacc aatggaactc tctttccact	900
aaaagttact gtcacactaa acagacgtat gttagcttct ggaatggcct atgctatgat	960
ttttcatggt ctctaaatgc agaggaagcc ccggaaacta ccgaagtcac tctcattacc	1020
tcccccttct ttttttctta tatcagagaa gatgactgaa tgcattagtt tgtgttatgt	1080
ttcaacgtgt ttattttcaa ttg	1103